

REMARKS

Claims 1-15 are all the claims pending in the application. Claims 1-12 have been amended for clarity in order to obtain the scope of protection to which applicants are entitled.

Objection to Disclosure

The disclosure has been objected to because of certain spelling and grammatical errors. Applicant is grateful to the Examiner for pointing out these errors and has corrected them as well as any others that could be identified.

Claim Rejections - 35 U.S.C. § 103

Claims 1-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tong et al (6,352,803). This rejection is traversed for at least the following reasons.

Claim 1

With respect to the present invention recited in the amended claim 1, Applicant respectfully submits that Tong does not disclose that the stress correction film is made of material containing Ta as a major component and at least B.

By contrast, according to the present invention, the stress correction film is made of material containing Ta as a major component and at least B. Thereby, the stress can be varied from the compressive stress to the tensile stress, for example, by controlling the gas pressure upon the sputtering deposition. Consequently, the material of the multilayer film or the absorber layer can be widely selected. Therefore, the present invention has significant advantages over the prior art design.

Furthermore, according to the present invention, the flatness of the surface of the multilayer film is 100 nm or less in the reflection type mask blank for exposure. As a consequence, in case where the pattern is transferred onto the wafer by the use of the reflection type mask blank, the pattern transfer accuracy is not degraded even if the design rule is $0.07\ \mu\text{m}$ or less.

Claim 2

With respect to the present invention recited in the amended claim 2, Tong does not disclose that the stress correction film is made of material containing Cr and N (N having a ratio between 5 and 35 at%).

By contrast, according to the present invention, the stress correction film is made of

material containing Cr and N (N having a ratio between 5 and 35 at%). Thereby, the present invention is superior in smoothness as well as cleaning resistance.

When the surface of the stress correction film is not smooth, the surface roughness and the flatness of the multilayer film are significantly degraded. In a case where the pattern is transferred by the use of the mask produced by using such a mask blank having the stress correction film which is not smooth on the surface thereof, the pattern transfer accuracy is significantly degraded.

In the present invention, the stress correction film is made of material containing Cr and N (N having a ratio between 5 and 35 at%), as mentioned above. As a result, the surface roughness and the flatness of the multilayer film can be reduced, so that the pattern transfer accuracy is improved.

Furthermore, according to the present invention, the flatness of the surface of the multilayer film is 100 nm or less in the reflection type mask blank for exposure. As a consequence, in case where the pattern is transferred onto the wafer by the use of the reflection type mask blank, the pattern transfer accuracy is not degraded even if the design rule is $0.07\ \mu\text{m}$ or less.

Claims 3-15

Clearly, on the basis of the foregoing discussion, and for the above-mentioned reasons, the present invention as defined in claims 1 and 2 is clearly patentable over the Tong. Claims 3-15, which depend from claims 1 or 2, would be patentable on the basis of their dependency. These claims also have their own basis for patentability, based on the limitations therein that are not found in Tong.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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Respectfully submitted,

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Date: November 14, 2003